

## V. Vaccination coverage

Survey results identified that vaccination coverage with six EPI antigens, (i.e. BCG, DPT, OPV and measles in children aged 12-23 months in the district of Qaen is much higher than in the Birjand district, and the results are presented in the following table:

Type of vaccine	Vaccination status in sample children aged 12-23 months	Qaen	Birjand
DPT	% of those who received 3 doses	94	35
OPV	" " " " " "	94	35
BCG	" " " " " 1 dose	96	54
Measles	" " " " " "	96	54

Regarding the TT vaccination in female aged 15 - 44 years old, the situation is crucial.

In Qaen district no TT vaccination has been carried out so far. In Birjand district, the coverage is very low (25% received a second dose of TT and 5.6% the third dose).

As a whole, the TT vaccination, at present, is not performed as a routine programme.

It is hoped that this vital programme should begin immediately by female CHWs when the health posts become functional

## VI. Knowledge-belief and attitude

### 1. Delivery and confinement practices

Survey results showed that a hundred percent of all deliveries have been conducted at home.

It was also identified that 99.5% of all deliveries have been carried out by family members, meanwhile only 0.5% were attended by traditional birth attendants, even though untrained.

This type of home delivery; attended by family members or persons without training, will undoubtedly threaten the health of the mother and infant, particularly in relation with neonatal mortality due to neonatal tetanus.

## 2. Feeding practices

Feeding practices in this survey, studied in children aged 0 to 2 years and in the three following age groups: (data analyzed for Birjand and Qaen together): -

- below 4 months
- 4-12 months
- 13-24 months

### 2.1. Children aged below 4 months

The most important issue in relation to this age group is that 97.6% of all children (sample population) benefited from breast feeding and the rest, i.e. 2.4% are breast and bottle fed.

### 2.2. Children aged 4-12 months

Feeding practices in this age group are as follows:

- 61.9% benefited from breast feeding
- 26.3% took breast milk plus home made food
- 5.1% benefited from breast feeding plus dried milk
- 3.4% took breast milk plus commercial food
- 3.2% took dried milk plus home made food

### 2.3. Children aged 13-24 months:

Feeding practices in this age group are as follows:

- 71.3% benefited from breast feeding plus home made food
- 15.5% fed by breast milk
- 6.1% took dried milk in addition to home made food
- 4.5% were breast fed plus commercial food
- 2.5% benefited from breast milk plus dried milk

## VII. Environmental health

### Birjand district

#### 1. Source of drinking water

The physical condition of drinking water in 120 villages and settlements covered by the survey were found as stated below:

- The inhabitants of 39 settlements and villages with 10588 households (nearly more than half of the total number of households in the area), benefited from safe drinking water through a pipe line system and sanitary springs, qanats and wells.

-(in 20 settlements out of 39, the pipeline system existed)

-The sources of drinking water in 81 settlements and villages with 9739 households are from insanitary supplies such as wells, qanats, springs and rivers.

## 2. Latrine availability

Regarding the manner of human excretal disposal, the following information was obtained from the survey results:

- in 19 settlements, latrines are available in all household.
- in 26 settlements, latrines are partially available.
- in 75 villages or settlements, no latrines are available.

## Qaen district

### 1. Source of drinking water

As a whole, in 13 settlements and villages covered by the survey, sources of drinking water were found insanitary with the following physical conditions:

- in 9 settlements, qanats are sources of drinking water
- in 3 settlements, rivers are sources of drinking water
- in 1 settlement, drinking water is provided by qanat, well and river.

### 2. Latrine availability

No latrines available in the settlements.

To conclude, it is necessary to note that the Afghan population is not interested in the use of latrines for excretal disposal.

Adults usually defecate during the night and in the open, around their settlements, and the children inside or around their houses.

## CONCLUSION

The survey revealed that the infant mortality rate (IMR) is considerably high in the sample population, particularly in Qaen district (241/1000).

This index shows the magnitude of the existing health problems of ARs, demanding a comprehensive, practical and effective programme implementation as soon as possible, in order to improve life and health standards of this deprived population.

The survey shows that the main causes of death in children under one year of age in Qaen district are due to neonatal tetanus, diarrhoeal diseases as well as acute respiratory infections.

In the district of Birjand, because of low vaccination coverage, the vaccine preventable infections and also the above mentioned diseases are the main causes of death in children below one year of age.

The survey result indicates that neonatal tetanus is a serious health problem in the Afghan population due to the absence of maternity services and low coverage of TT vaccination of women in child bearing age.

The survey has shown that all deliveries were conducted at home and the great majority of deliveries were attended by untrained persons.

The existing physical environment such as source of drinking water and disposal of human excreta are two important factors which threaten the health conditions of the Afghan population.

Finally it is important to mention that in spite of an overall poor living standards and child care conditions, the nutritional status in children aged six months to five years were found satisfactory in the great majority of the settlements.

#### RECOMMENDATIONS

It is recommended that the following actions be taken: -

1. Due to high incidence of neonatal tetanus, the TT vaccination of women in child bearing age is absolutely recommended. In case of shortage of female CHWs, at least, pregnant women should be vaccinated at the first stage of programme.
2. Establishment of TBAs training courses as a priority and continuation of the courses until the number of TBAs meet the requirements.
3. Strengthening EPI activities in the district of Birjand, in order to achieve a high coverage level, particularly in children below one year of age.
4. Additional technical training and instructions should be given to auxiliary health personnel at the periphery (i.e. CHWs) on whom EPI implementation in the field basically depends.
5. Due to high incidence of diarrhoeal diseases, the implementation of ORT programme which is a simple technique for preventing and treating diarrhoeal dehydration which claims the lives of a great number of children each year, is strongly recommended.
6. Since diarrhoea is a major associated cause of morbidity and mortality, improvement of environmental health in relation to provision of safe drinking water and disposal of human excreta is of the utmost importance.
7. The implementation of a health education programme for the improvement of family and community health standards is quite necessary, as it would encourage and develop the ability of both to assume greater control over their health.

8. Since PHC network activities had not become functional at the time of survey implementation, to evaluate the advantages of this system, it is recommended that another survey focused on particular areas such as IMR and diarrhoeal diseases be carried out in 1990.

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APPENDIX A

Health & Nutrition Survey of Afghan Refugee in Iran.

7- Physical Environment  
(Latrine availability)

- Available ☐
- Not available ☐
- Available but not used ☐

HOUSEHOLD FORM (form No.1)

- 1- Name of Province \_\_\_\_\_
- 2- Name of District \_\_\_\_\_
- 3- Name of Village \_\_\_\_\_
- 4- Name of Settlement \_\_\_\_\_
- 5- Vill. or Sett. No. \_\_\_\_\_
- 6- Household No. \_\_\_\_\_
- 7- Name of head of household \_\_\_\_\_

7- Physical Environment  
(Source of drinking water)

- Sanitary ☐ Un sanitary ☐
- Pipeline ☐ River ☐
- Well ☐ Well ☐
- Spring ☐ Spring ☐
- Qanat ☐ Qanat ☐

Serial No.	Relation to head of household	Age		Sex	Weight (kg) *	Height (cm) *	Vaccination status in children aged 12-23 months.										TT Vaccination in 15-44 females			Infectious diseases and lice infestation																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
		mth	yrs				BCG	DPT 1	DPT 2	DPT 3	OPV 1	OPV 2	OPV 3	MEAS-LES	TT 1	TT 2	TT 3	+	Diarrhea **	Malaria *** now	Scabies	Lice infest																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
1.	Head of household																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																</

\* Weight and height should be measured in all children 6 months to 5 years (115 cm high).  
 \*\* Diarrhea in children below 5 who had an attack in the previous week.  
 \*\*\* For malaria case detection, slides should be made on all children below 10 years old.

## HOUSEHOLD FORM (form No. 11)

1- Name of Province \_\_\_\_\_

3- Name of Village \_\_\_\_\_

5- Village or Sett.No. \_\_\_\_\_

2- Name of District \_\_\_\_\_

4- Name of Settlement \_\_\_\_\_

6- Household No. \_\_\_\_\_

Total members of household	Age groups which should be identified in number										Number of live births and deaths during last year							
	<1 yrs	1 to 4 yrs	5 to 6 yrs	7 to 10 yrs	11 to 14 yrs	15-44 yrs female	45 yrs over	Live birth	Deaths	Number of deaths according to causes								
								Sex	<1 yrs	>1 yrs	Neonatal tetanus	Diarrhea	Maternal mortality	Others				
								M	F									
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21				
Last delivery status of women in household																		
Feeding practices for children aged : 0 to 2 years old																		
Serial No.	Place	by whom	Outcome	Age groups		Population	L	M	N	O	P	Q	Diet habits of women during pregnancy and lactating					
	A-B-C-D-E	F-G-H-I-J-K	live-born	still-born	under 4 mths								Foods avoided					
					4 to 12 mths								Special foods					
					13-24 mths								Supplements					
					Total								Yes					
22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Key :

A (Hospital) 23-1 H (Trained TBAs) 24-3 O (Breast feeding + commercial food)  
 B (Health Centre) 23-2 I (Untrained TBAs) 24-4 P (Breast feeding + home made food)  
 C (Home) 23-3 J (Family member) 24-5 Q (Vitamin and Iron drops)  
 D (In the field) 23-4 K (Others) 24-6  
 E (Other places) 23-5 L (Breast feeding)  
 F (Doctor) 24-1 M (Bottle feeding)  
 G (Midwife) 24-2 N (Bottle + Breast feed)

## Behaviour of the adult members of household

Male		Female	
Smoking	Durg abuse	Smoking	Durg abuse
Yes	No	Yes	No
41	42	43	44
45	46	47	48

Remark : The number of men or women who are or not addicted to smoking and drug abuse should be written in relevant columns under "Yes" or "No"

## Health and Nutrition Survey of Afghan Refugees in Iran

## DATA COLLECTION FORM OF ALL HOUSEHOLDS SURVEYED IN RACI SETTLEMENTS

7-AGE AND SEX				
Age	Sex	M	F	Total
under 1 yr				
1-4 yrs				
5-14 yrs				
15-44 yrs				
45 & over				

Specific age groups			
category	number	%	
6 mths-5yrs		over 100%	
12-23 mths		90-100%	
0-2 yrs		80-90%	
0-5 yrs		70-80%	
0-10 yrs		60-70%	
8- LIVE BIRTHS		under 60%	
Sex	Total		
M			
F			
9- DEATH			
<1 yr	>1 yr	Total	
10- CAUSE SPECIFIC DEATHS			
Neo-natal	Dia-rrh. em-teta.	Mat-Oths	To tal

13-NUTRITIONAL STATUS OF CHILDREN 6 MONTHS TO 5 YRS				16-INFECTIOUS DISEASES AND LICE INFESTATION				19-FEEDING PRACTICES FOR CHILDREN AGED 0 TO 2 YRS OLD				11- PHYSICAL ENVIRONMENT				
1-Name of Province	2-Name of District	3-Name of Vill or settl	4-Vill.or settlement No.	5-Total number of households	6-Number of households surveyed	Number of persons suffering from:	17-LAST DELIVERY STATUS OF WOMEN IN HOUSEHOLDS	Age grps	popul.	L	M	N	O	P	Q	Source of drinking water
						**Diarrhea	% in A-	<4 mths								-Spring
						**Malaria	% in B-	4-12 mths								-Qanat
						***Scabies	% in C-	13-24 mths								Unsanitary
						***Lice infestation	% in D-	Total								-River
							% in E-									-Well
							****									-Spring
																-Qanat
																Unsanitary
																-River
																-Well
																-Spring
																-Qanat
																Unsanitary
																-River
																-Well
																-Spring
																-Qanat
																Latrine availabili
																-Available
																-Not available
																-Partially
																available
																12-SETTL. FACILITIES
																-Health Centre
																-Health Post
																-School
																-Public bath
																-Mosque
																-Bakery
																-Electricity
																-Slaughter-house
																-Public latrine
																-Place for washing the dead

11 - PHYSICAL ENVIRONMENT

Source of drinking water

Sanitary

Pipeline system

Well

Spring

Qanat

Unsanitary

River

Well

Spring

Qanat

Latrine availabili

Available

Not available

Partially

available

12-SETTL. FACILITIES

Health Centre

Health Post

School

Public bath

Mosque

Bakery

Electricity

Slaughter-house

Public latrine

Place for washing the dead

\* % children who have received 3 doses of DPT and OPV , one dose of BCG and one dose of measles vaccine according to vaccination card.

\*\* Refer to explanation given in the bottom on household form No. 1

\*\*\* In all age groups \*\*\* for abbreviations A up to K refer to the household form No. II - \*\*\*\*\* for abbreviations L up to Q refer to the household form No. II.

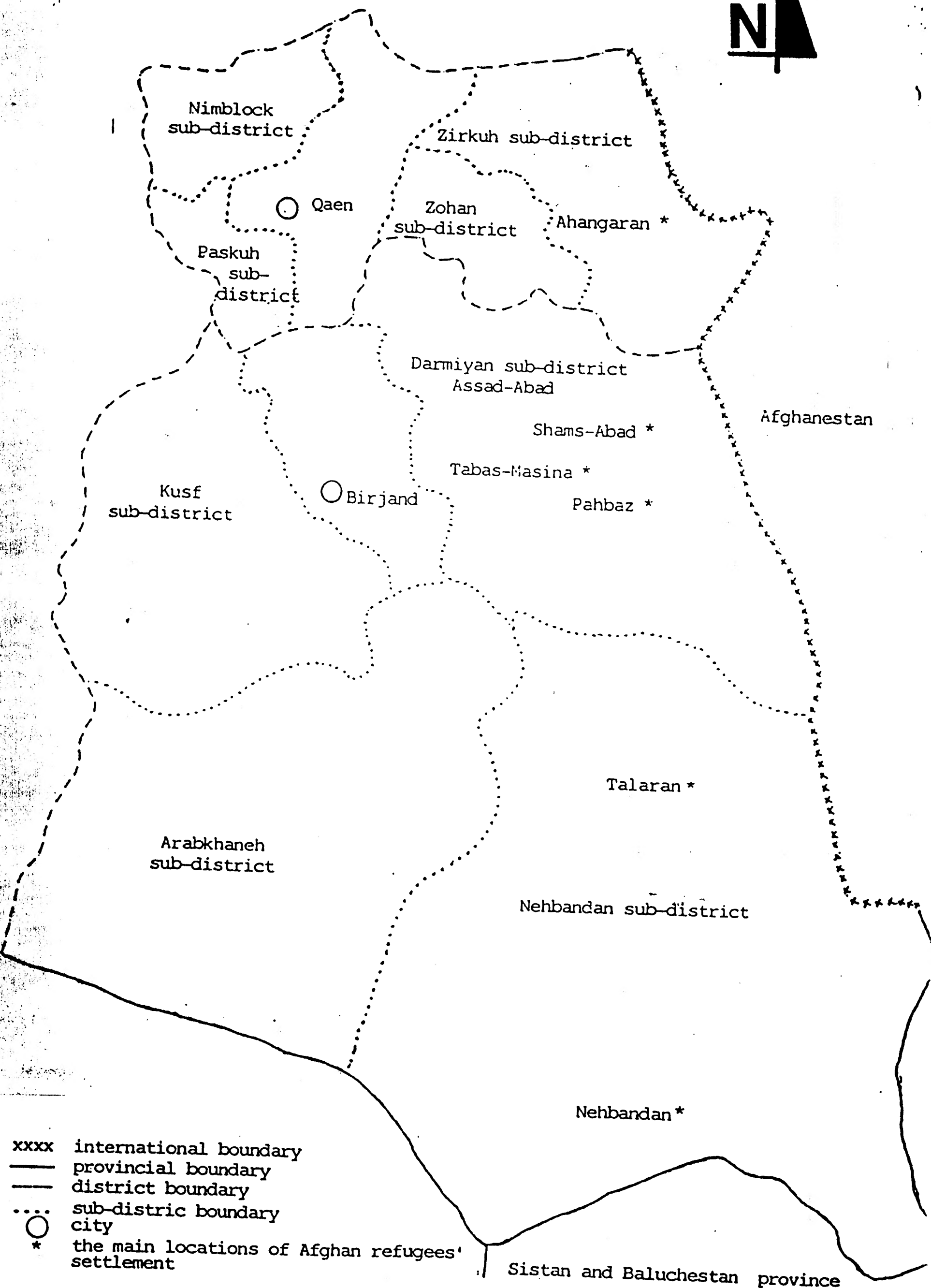


# THE ISLAMIC REPUBLIC OF IRAN



- location of Birjand and Qaen districts in Khorasan Province
- - - - international boundary
- provincial boundary
- ..... boundary of district

# Map of Birjand and Qaen Districts



## SUMMARY:

The United Nations High Commissioner for Refugees (office of the charge de mission, Islamic Republic of Iran) in cooperation with the ministry of Health and Medical Education conducted a survey on health and nutritional status of 2800 households of Afghan refugees in 133 spontaneous settlements scattered in 83000 sq. kms. of rural areas of Birjand and Qaen districts of Khorasan province from 23 April to 5 June 1988.

Survey results indicate that the Afghan refugees' children (aged 6 months to 5 years), in spite of an overall insanitary living conditions, enjoy a rather remarkable nutrition status.

The percentage of children above the median of NCHS/CDC/WHO reference was found to be 39% in the district of Qaen and 27% in Birjand district.

The prevalence of malnutrition (<80% WT/HT) was identified to be 3.1% in Qaen district and 4.67% in Birjand district.

Infant mortality rates (IMR) in Birjand and Qaen districts were 176/1000 and 241/1000, respectively. The rate in Qaen is very high compared to the national prevailing figures.

A history of diarrhoea within seven days prior to interview in children below 5 years old was 227 (35%) in Qaen and 1482 (47%) in Birjand.

Survey results indicate that the neonatal tetanus mortality rate due to unhygienic delivery conditions is very high, particularly in Qaen (155/1000).

It should also be mentioned that physical environmental conditions are not acceptable from a sanitary point of view.

Finally, it should be noted, that in order to undertake the survey, the interviewers as well as the team supervisors travelled more than 26,321 Kms, mostly on bad roads and in very difficult conditions.

## INTRODUCTION

Survey results identified the following INDICATORS:

### I. Demographic Patterns:

#### Population break down

#### 1. Sex and age with the following groups categories:

- a) under one year
- b) 1-4 years old
- c) 5-14 years old
- d) 15-44 years old
- e) 45 years and over

2. Average household density
3. Number of women in child bearing age

## II. Health Indices:

1. Crude birth rate
2. Crude death rate
3. Infant mortality rate
4. Neonatal tetanus mortality rate
5. Maternal mortality rate

## III. Nutrition data:

Weight for height ratios of all children aged 6 months to 5 years were compared to NCHS/COC/WHO standards (reference median) to identify the prevalence of malnutrition.

## IV. Infectious diseases:

1. Diarrhoea:

Percentage of children below 5 years of age who had an attack within seven days prior to interview.

2. Malaria:

- Number of children below ten years of age suffering from malaria at the time of interview (slides were made for case detection).

3. Number of persons with skin diseases (scabies) and lice infested individuals.

## V. Immunization coverage:

1. Immunization coverage in children 12-23 months.
2. Coverage of TT vaccination in women aged 14-45 years.

## VI. Knowledge-belief-attitude:

The refugee practices related to delivery and confinement, breast feeding etc.

## VII. Environmental health:

1. Source of drinking water
2. Sewage disposal

## SURVEY DESIGN

### 1. Sampling

Since the collected data and information must be representative of the whole population, therefore "Skip interval cluster sampling method" was used for a selection of households at random, because of the following reasons:

- The Afghan population is not homogeneous in different aspects such as culture, knowledge and belief, housing and accessibility to the existing health services and physical environment which these factors undoubtedly affect their health and nutritional status.
- The vastness of the settled areas (approximately 83000 Sq. Kms) and dispersion of the settlement all over the area.

Using this sampling method 10 percent of all Afghan refugees' households (every tenth house) all over the rural areas of Birjand and Qaen districts covered by survey were taken into account.

#### 1.1. Households selection methodology

In each village or settlement serial numbers beginning from one were given to each household. Using a serial number on a currency note, a number was chosen at random to select the first household to be visited..

Since in this survey the random number was Zero, the first household to be visited was household number 10 in the first settlement. For example, if there were 67 households in a settlement, questionnaires (household forms) completed for households: 10,20,30,40,50 and 60 were used, but the remaining 7 households were considered to belong to another village. Therefore, in the second village or settlement, households: 3,13,23,33, and so on were covered by survey.

### 2. Training

In order to standardize all survey procedures such as household selection methodology, disease and symptom definition, household form completion, data collection, etc., a four days training course was conducted in Birjand Health Centre from 17 to 20 April 1987.

In this training course, 2 senior supervisors, 5 team leaders and 20 interviewers with adequate experience in health survey participated.

To ensure the integrity of the household forms completion, standardization of data collection and accuracy of weight and measurement techniques, a training workshop was also conducted.

On the last day of the training course, a small pilot survey was carried out with the participation of all supervisors and interviewers in order to remove unforeseen problems and obstacles.

### 3. Data collection

Data was collected by 10 teams consisting of a total of 20 interviewers and 5 team supervisors (each supervisor was responsible for 2 teams).

Each team was provided with a vehicle and a driver.

The team supervisors were responsible for checking at random the anthropometric measurements and completed household forms. (Appendices A and B) as well as checking all settlement forms (Appendix C).

In order to obtain accurate and precise data on infant mortality rate (IMR), the survey started in Ramadan (fasting month). Ramadan being quite familiar to the Afghan population, they can easily remember whether any child of their family died during the previous Ramadan to the time of the survey.

### 4. Anthropometric measurement techniques

Weight for height ratios of all children aged 6 months to 5 years (115cm height) were identified.

For weight measurement a 25 Kg. salter spring balance was used.

For height measurement, a baby board for children unable to stand (under 2 years or less than 85 Cm), and a vertical measuring rod for those over 85 Cm, were used.

### 5. Vaccination Coverage

The vaccination coverage with six EPI antigens (i.e. BCG, DPT, OPV and measles in children aged 12-23 months and also vaccination status (TT vaccination) of women in child bearing age (15 to 44) were obtained from vaccination cards.

## RESULTS

### I. Demographic Patterns

#### 1. Population breakdown

The results of population break down are presented in the following tables (table 1 and 2) for Birjand and Qaen separately. It is necessary to mention that a total of 2800 households were covered by survey (1400 in Birjand and 1400 in Qaen).

Table 1

BIRJAND

Age	Sex	Male	Female	Total	% of total population
< one year		226	232	458	4.56
1-4 yrs		749	733	1482	14.78
5-14 yrs		1538	1399	2937	29.29
15-44 yrs		2017	1983	4000	39.90
45 yrs & over		666	481	1147	11.44
TOTAL		5196	4828	10024	

Table 2

QAEN

Age	Sex	Male	Female	Total	% of total population
< one year		46	42	88	5
1-4 yrs		118	109	227	12.90
5-14 yrs		276	221	497	28.25
15-44 yrs		378	348	726	41.27
45 yrs & over		138	83	221	12.56
TOTAL		956	803	1759	

## 2. Average household density

Survey results indicate that average household densities (mean) in Birjand and Qaen were 4.09 and 5.02 respectively.

## 3. Number of women in child bearing age:

In Birjand, the number of women in child bearing age was found to be 1983 persons (19.78 % of the total population) and in Qaen, 348 persons (the percentage of this age group in comparison with the total population was just the same as in Birjand i.e. %19.78).

## II. Health indices

All collected data regarding health indices in the sample population were calculated separately for Birjand and Qaen districts, and the results are tabulated in the following table.

HEALTH INDICES	DISTRICT	
	Birjand	Qaen
1. Crude Birth Rate: $\frac{\text{No. of live births during yr.} \times 1000}{\text{Mid yr. population}}$	$\frac{511 \times 1000}{9859} = 51.8$	$\frac{116 \times 1000}{1721} = 67.4$
2. Crude Death Rate: $\frac{\text{No. of deaths during yr.} \times 1000}{\text{Mid yr population}}$	$\frac{182 \times 1000}{9859} = 18.4$	$\frac{41 \times 1000}{1721} = 23.8$
3. Infant Mortality Rate (IMR) $\frac{\text{No. of infant deaths (<1 yr.)} \times 1000}{\text{No. of live births in the yr.}}$	$\frac{90 \times 1000}{511} = 176/1000$	$\frac{28 \times 1000}{116} = 241/1000$
4. Neonatal tetanus mortality rate: $\frac{\text{No. of deaths due to disease} \times 1000}{\text{No. of live births}}$	$\frac{33 \times 1000}{511} = 64.5/1000$	$\frac{18 \times 1000}{116} = 155/1000$
5. Maternal Mortality Rate: $\frac{\text{No. of maternal deaths associated with pregnancy and child bearing} \times 1000}{\text{total (live \& still) births}}$	$\frac{4}{511+3} = 7.78/1000$	None



### III. Nutritional status

Weight for height measurements of 2310 children aged 6 months to 5 years (115 cm height) were compared to the NCHS/CDC/WHO Reference Standard (reference median) and the results are shown in the following tables:

Birjand and Qaen districts.(together)

Category	Number of children	Percentage
over 100%	663	28.70
90-100%	1063	46.01
80- 90%	481	20.81
under 80%	103	4.45
TOTAL	2310	99.97

Birjand District

Category	Number of Children	Percentage
over 100%	537	27.01
90-100%	923	46.42
80- 90%	435	21.88
under 80%	93	4.67
TOTAL	1988	99.98

Qaen District

Category	Number of Children	Percentage
over 100%	126	39.13
90-100%	140	43.47
80-90%	46	14.28
under 80%	10	3.10
TOTAL	322	99.98

Although the nutritional status of children (aged 6 months to 5 years) as a whole indicates an overall acceptable nutritional level, survey results show some differences of nutritional status in different spontaneous settlements.

To clarify this situation, the anthropometric measurements (weight-for-height) were calculated separately for six main populated settlements and the results are tabulated in the following tables:

Ahangaran Sett.  
(Qaen district)

Category	No.	%
over 100%	64	40.50
90 - 100%	60	37.97
80 - 90%	26	16.45
under 80%	8	5.06
TOTAL	158	

Dasht-e-Pahbaz Sett.  
(Birjand district)

Category	No.	%
over 100%	58	40
90 - 100%	52	35.86
80 - 90%	31	21.37
under 80%	4	2.75
TOTAL	145	

Daft-Abad Sett  
(Birjand district)

Category	No.	%
over 100%	21	27.63
90 - 100%	38	50
80 - 90%	14	18.42
under 80%	3	3.94
TOTAL	76	

Pay-Sia Sett.  
(Birjand district)

Category	No.	%
over 100%	60	28.16
90 - 100%	101	47.41
80 - 90%	44	20.65
under 80%	8	3.75
TOTAL	213	

Shams-Abad Sett.  
(Birjand district)

Category	No.	%
over 100%	89	24.42
90 - 100%	159	45.42
80 - 90%	78	22.28
under 80%	24	6.85
TOTAL	350	

Jamalzehi Sett.  
(Birjand district)

Category	No.	%
over 100%	21	28
90 - 100%	34	45.33
80 - 100%	17	22.66
under 80%	13	4
TOTAL	75	

#### IV. Infectious diseases

##### 1. Diarrhoea:

Definition- When a child passes at least 3 watery stools in a day for more than two consecutive days.

A history of diarrhoea within seven days prior to interview was given for 777 (45%) of all children below five years old in the sample population (47% in Birjand and 35% in Qaen).

##### 2. Malaria

A total of 3274 slides were made on children below 10 years old but no positive case was detected.

##### 3. Skin diseases

Regarding skin diseases, only scabies was partially investigated, as due to the Afghan culture and traditions, women were not allowed to be examined by male interviewers. Therefore, on the average, 367 scabies cases were detected among sample populations (all age groups).

##### 4. Lice infestation

Due to the above mentioned obstacle, enquiry about lice infestation in women were made to their husbands, but others were examined by interviewers. 2651 individuals of all age groups were infested by lice.

##### 5. Neonatal tetanus

Definition: a death from neonatal tetanus was defined as a child from 3-28 days of age, although able to suck at birth, subsequently ceased to feed and exhibited the following: trismus and generalized spasms (convulsions), with or without loss of consciousness (quote the prevention of neonatal tetanus WHO/EMRO/SEARO Technical Publication).

The survey showed that tetanus neonatorum is a major cause of neonatal death, because of high incidence in Afghan refugees settlements. The mortality rate was found (51x1000/627) 81 per thousand live births (64.5/1000 in Birjand and 155/1000 in Qaen).

It was also found that neonatal tetanus accounted for 36.6% and 64.2% of total infant mortality figures in Birjand and Qaen districts respectively.

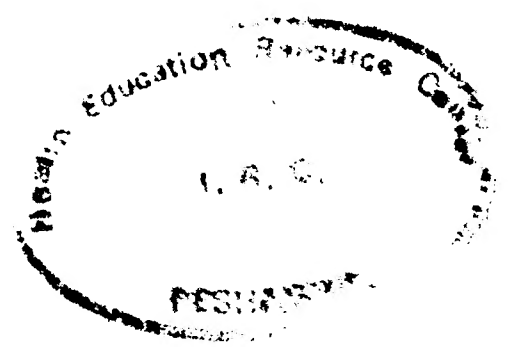
These results indicate that neonatal tetanus is one of the most important health problems among Afghan refugees in Iran.



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HEALTH AND NUTRITION SUR-  
VEY OF AFGHAN REFUGEES  
IN THE ISLAMIC REPUBLIC  
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**HEALTH AND NUTRITION SURVEY OF AFGHAN  
REFUGEES IN THE ISLAMIC REPUBLIC OF IRAN**

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of the Islamic Republic of Iran

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